>CURSOR

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THE TINY MICRO COMPUTER NEWS SERVICE

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SSUE

CURSES - FOILED AGAIN:::

by

FRED CORNETT, MANAGING EDITOR

I'm sure you must have noticed that this issue arrived about 10 days later than usual. *#*%*#*\$&*#&**#!!

Ah, how naive we at "The Cursor Group" must be! We thought that by leasing our new, more spacious offices, we would be

able to increase our efficience by at least 50%. HAH!

As all of our issue deadlines approached, a record heat wave hit our area (over 105°F daily); did that phase us? Nah! We continued blithely onward until our central air conditioning decided to take a vacation. The temperature in our offices zoomed up to 140°F (our thermometer only goes to 140°). I in turn,

was forced to put everyone on vacation until the air conditioning was repaired (over 1 week)! As for myself, I wish I could say I went to the beach or mountains, instead I alternated between vicious attacks on our landlord and gulping quart bottles of Malox. So much for excuses..... Contrary to popular belief, "The Cursor Group" IS a full time business; with employees, rent, office machine purchases, insurance, tax, and all the other expenses any business has. So, "what else is new?" you say. Like any business, we must make a profit to continue printing our newsletter. Obviously, if we cannot pay the salaries of our employees, advertising, printing, etc., and have something of a profit, this newsletter will cease to exist!!!

We have come a long, long way since our First Issue (it wasn't even printed, it was xeroxed), with its' free-form schematics and errors. This massive quality upgrading was brought about by one thing and one thing only ---- spending money!!

Our July issue was printed in blue on gold paper (which produced green print - ugh); this issue is printed in "drop-out blue", and 2 pages of "Hoover Orange" vertical

stripes. For those of you that haven't figured out what we are doing, we are trying to eliminate the wide-spread practice of certain individuals duplicating our issue and trading or giving it to friends.

This is a unique situation. The average individual who duplicates our issue is a God-fearing family man, who wouldn't or couldn't bring himself to shoplift from his neighborhood grocery store because he knows

that the grocery store has to raise its prices to compensate for the theft. If the grocer is forced to raise his prices over and beyond what the prevailing prices in the area are able to sustain, he will go bankrupt and the market will cease to exist. "CURSOR" is a hobbyist periodical, and unfortunately many hobbyists consider it fair game to shoplift our product -- "CURSOR"!! I'm sure you must have noticed more and more "Cursor" issue space is taken up with advertising our own products. This space would normally be enough to include one or more tutorials or programs. We are forced to do this to cover expenses.

But alas, monthly production costs for

duplicating. Obviously, this type of

"Cursor" have risen 300 percent in the last

60 days, due to our attempts to eliminate

BUE CONTROLLED

TOTAL STATE OF THE STATE OF

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situation cannot continue.

We greatly appreciate those individuals who have copied one issue and sent it to a friend with a recommendation that he subscribe. But, if you are currently xeroring ALL our issues for a friend, PLEASE suggest he take advantage of our \$1 discount and subscribe.

Publishing CURSOR is not a game to us, we are trying our very best to constantly upgrade our contents and bring you the best of programs. PLEASE support "CURSOR" and allow us to have a payday just like everyone else. If we can't...no more "CURSOR". Enough said.

CURSOR INVENTORY PROGRAM

This program was created to be operated on a daily basis. When we opened our daily mail in the morning, we would input the info from our mail, thereby creating a "XEROX" order to our printer, complete with total price which allowed us to check his bill. There are 2 menus; the Master Menu, and the Inventory Update Menu.

Let's follow a typical day. Input the program and press "RUN" & "GO". Now you have the Master Menu. We have just received orders, so we select #1. Press 1-computer will print second menu- Press 2-computer will print "UPDATE UNFILLED ORDERS" and "INPUT CATALOG NUMBER". Press 1-computer will print "DID YOU WANT CATALOG # 1 ? YES OR NO. Press Y- computer will ask "HOW MANY UNFILLED ORDERS ARE YOU ADDING ?". Press 5-computer will now print "STATUS CHART" telling us to order 5 copies of #1. Press any key-Menu will print. Press 5 to return to Master Menu. Press 3-Cost chart tells us to order 5-#1's and pay total of \$10.50.

If you ever have a need to clear all the strings in this program, use the following one line program without a line #.

FOR A=1TO 29;@(A)=Ø;NEXT A

NOTE: This program was designed to work with the 63 key ASCII Keyboard, but will also work with the Bally Keypad.

IMPORTANT: Starting with this issue, whenever 2 or more spaces are located together on a program line, ζ =SPACE. SO, whenever you see " ζ ", key in a space (this is done to make it easier for you to tell how many spaces are necessary).

PROGRAM EXPLANATION

- 1 Jumps to main body of program
- 2 Print subroutine
- 3 Safeguard subroutine in case wrong catalog number is selected.

5 Subroutine reduces ASCII Code derived from A=KP to simple decimal #.

6- 7 Subroutine updates current status: If order quantity exceeds stock, Xerox quantity equals order quantity minus stock; if not, Xerox quantity equals zero.

20- 26 Inventory Update Menu

26 Algorhythm that sends menu selection to appropriate routine.

27- 29 Update Stock on Hand Routine

40- 42 Update Unfilled Orders Routine

60- 64 Update filled Orders Routine 80 Restarts "Inventory Update Menu" if "5" is pressed

100 Returns to Master Menu

120-140 Prints "Inventory Status" Chart

220 Look up table: # of pages in manuals

220-315 Prints "Print Order Cost Chart"

320-324 Lists Program & Dumps string arrays 1-29 on tape.

500-550 Master Menu

550 Algorhythm that sends Master Menu selection to appropriate routine.

MAJOR VARIABLE INDEX

B=Dollar Amounts Y=Dollar Amounts Z=Cent Amounts

@(A)=Stock

@(A+1Ø)=Order

@(A+2Ø)=Xerox

@(A+3Ø)=Price or # of pages, dependent on Location in program. At one point @(A+3Ø) contains Dollar & Cents.

STOCK INVENTORY STATUS & PURCHASE ORDER PROGRAM BY

FRED CORNETT

- 1 NT=1;GOTO 500
- 2 PRINT "ζζΙΝΡυΤ CATALOG NUMBER"; RETURN
- 3 PRINT #1, "DID YOU WANT CATALOG # ",A,"ζ ?"; PRINT "ζζζζΥ=YES N=NO"; B=KP; RETURN
- 5 A=KP; A=A-48; RETURN
- 6 FOR A=1TO 9; IF @(A+1Ø)>@(A) @(A+2Ø)=@(A +1Ø)-@(A); NEXT A; RETURN
- 7 $@(A+2\emptyset)=\emptyset$; NEXT A; RETURN
- 2Ø CLEAR ;PRINT "INVENTORY UPDATE ROUTINE" ;PRINT "ζζ1-UPDATE STOCK ON HAND
- 21 PRINT ;PRINT "ζζ2-UPDATE UNFILLED ORDER S";PRINT ;PRINT "ζζ3-UPDATE FILLED ORDE RS
- 22 PRINT ;PRINT "\(\zeta\zeta 5-\frac{\text{RETURN}}{\text{TO}}\) MASTER MENU ";PRINT ;PRINT "\(\zeta\zeta 6-\text{HALT"}\),
- 24 GOSUB 5; IF (A>6)+(A<1)GOTO 24
- 25 IF A=6STOP

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- 26 IF A#1GOTO Ax20
- 27 CLEAR ; PRINT "ADD TO STOCK ON HAND"; GOS UB 2; GOSUB 5; GOSUB 3; IF B#89GOTO 27
- 29 INPUT "HOW MANY"S;@(A)=@(A)+S;GOTO 120
- 40 CLEAR ; PRINT ; PRINT "UPDATE UNFILLED OR DERS"; GOSUB 2; GOSUB 5; GOSUB 3; IF B#89GO TO 40
- 42 PRINT; INPUT "HOW MANY UNFILLED ORDERSζ ζARE YOU ADDING ?"U;@(A+1Ø)=@(A+1Ø)+U;G OTO 12Ø
- 6Ø CLEAR ;PRINT ;INPUT "UPDATE FILLED ORDE RS";PRINT ;GOSUB 2;GOSUB 5;GOSUB 3;IF B #89GOTO 6Ø
- 63 PRINT; INPUT "HOW MANY ORDERS HAVE YOUς ζFILLED?"P; IF P<=@(A+1Ø) IF P<=@(A) @(A+1Ø)=@(A+1Ø)-P; GOTO 12Ø
- 64 GOTO 63
- 8Ø GOTO 24
- 100 RUN
- 120 CLEAR ; PRINT "MANUAL STOCK ORDERS XEROX
- 125 GOSUB 6
- 13Ø FOR A=1TO 9;PRINT #1,"ζζ",A,"ζζζ",#5,@(A),@(A+1Ø),#7,@(A+2Ø)
- 140 NEXT A; CX=-44; PRINT " PRESS ANY KEY",; A =KP; GOTO 20
- 22Ø B=Ø;@(31)=3Ø;@(32)=21;@(33)=66;@(34)=71;@(35)=6Ø;@(36)=63;@(37)=93;@(38)=113;@(39)=25
- 225 GOSUB 6
- 230 CLEAR ; PRINT "MANUAL ORDER PRICE
- 24Ø Z=Ø;Y=Ø;FOR A=lTO 9;B=Ø;@(A+3Ø)=@(A+3Ø) \times @(A+2Ø) \times 7
- 25Ø IF $@(A+3\emptyset) > 99B=B+1; @(A+3\emptyset) = @(A+3\emptyset) 100$
- 26Ø IF @(A+3Ø)>99GOTO 25Ø
- 27Ø Y=Y+B; Z=Z+@ (A+3Ø); @ (A+3Ø) = (Bx1ØØ) +@ (A+3 Ø)
- 28Ø PRINT #1,"ζζ",A,#7,@(A+2Ø),#5,@(A+3Ø):
 1ØØ,#1,".",RM
- 29Ø NEXT A
- 300 IF Z>99Z=Z-100;Y=Y+1
- 3Ø5 IF Z>99GOTO 3ØØ
- 31Ø CY=8; CX=36; PRINT "TOTAL"; CY=Ø; CX=44; PR INT #1, Y, ".", Z
- 315 CY=-4Ø; CX=-44; PRINT "PRESS ANY KEY",; G
 OSUB 5; RUN
- 32Ø CLEAR ; PRINT ; PRINT "SAVE ON TAPE"; PRI NT ; PRINT "START RECORDER. WHEN LEADERH AS PASSED RECORD HEAD,
- 322 PRINT "PRESS ANY KEY. PROGRAM &ζζSTRIN GS WILL STORE ON TAPE
- 324 :RETURN ;GOSUB 5;NT=1;:PRINT ;TV=13;LI ST ;FOR A=ØTO 29;PRINT #1,"@(",A,")=", @(A),;NEXT A;PRINT ";RUN ";STOP
- 500 CLEAR; PRINT "PRESS KEY FOR TRANSACTIO N"; PRINT; PRINT "ζζ1-UPDATE INVENTORY
- 510 PRINT ;PRINT " $\zeta\zeta$ 2-INVENTORY STATUS";PR INT ;PRINT " $\zeta\zeta$ 3-PRINT ORDER COST CHART ";PRINT ;PRINT " $\zeta\zeta$ 4-SAVE ON TAPE
- 520 PRINT ; PRINT "CC5-HALT",
- 53Ø GOSUB 5; IF (A>5)+(A<1)GOTO 53Ø

540 IF A=5STOP 550 GOTO Ax100-80

CONNECT FOUR

ROBERT LEAKE

EDITORS NOTE: This is the finest board game program we have ever seen written for the "Bally"! The graphics, color and sound is excellent. The computer makes each move totally cognizant of all the ramifications of his move. Hence, you are forced to play very well indeed in order to win (it beats us 8 out of ten times). This program alone is well worth the \$9.75 subscription price for "CURSOR".

The object of this game is to get four of your playing pieces in a row (without any of your opponents pieces in between) vertically, horizontally or diagonally before the computer or your human opponent does. Pieces drop vertically in the selected column to the lowest unoccupied position. To select a column, move the joystick left or right and squeeze trigger when indicator is over desired column. Joystick l always goes first.

This program loads in three separate segments; pay very close attention to the instructions, and input the information exactly as you see it.

Note: Starting with this issue, whenever 2 or more spaces are located together on a program line, ζ =SPACE. So, whenever you see " ζ ", key in a space (this is done to make it easier for you to tell how many spaces are necessary).

CONNECT FOUR PARAMATER PROGRAM BY

ROBERT LEAKE - ADAPTED BY FRED CORNETT

This program <u>MUST</u> be input and run <u>prior</u> to inputting the "Connect Four Main Body Program"!!!

After you have keyed this program into the computer and pressed "RUN", the screen will clear, and the following will appear:

LINE #2 1=

This display is telling you to refer to the chart marked "LINE 2". Take the value shown in the box <u>DIRECTLY</u> below the "l" (which is 2), and input the value, check to see if you have input it correctly before pressing "GO"; the computer will space a line and print:

LINE #2 2=

Check box 2 (which is 32), input value, hit "GO" and continue thusly. It must be stressed that you must check for errors before you press "GO" each time. If you make only one error, this program will not function properly!!

Eine 1 (Title Line) is absolutely necessary for data in subsequent lines to be accessed (do not delete)!

After you have run the "Parameter Program", and input the data in lines 2 through 7, the next step is to delete lines 100 through 310. This can be accomplished in one of 2 different ways.

1. Lines 280 through 310 comprise a small program that will load lines 1 through 7 on tape. Merely follow the directions that will be printed on your screen. Press "RECORD" on your tape machine and then press "GO" after the leader has cleared the record head. Use :LIST and playback the tape to make sure it has recorded. (Lines 2 through 7, which prior to running the program, cohtained numbers in sequence, i.e., 12345678, etc., now contain garbage to include such things as "??A4#)/??&". Do not think you have done something wrong, the computer is merely trying to print info that does not conform to ASCII Code; you will see many "?" on those lines.) If Lines 1 through 7 have loaded on tape, hit "RESET" and input tape, then key in "Connect Four Main Body Program"

2. The only purpose of the "Parameter Program" is to assemble data in lines I through 7. Lines 100 through 310 are totally unnecessary after the data has been loaded. After you have completed inputting all the data for lines 2 through 7, you must delete all lines that follow Line 7. If you do this, do not bother to input lines 280 through 310 at the beginning (they only apply to loading lines I through 7 on tape). After you have deleted all lines except I through 7, key in "CONNECT FOUR MAIN BODY Program".

- 1 CONNECT FOUR
- 2 .123456789Ø123456789Ø123456789Ø12345678 9Ø123456789Ø123456789Ø123456789Ø1234567 89Ø123456789Ø1234567
- 3 7.123456789Ø123456789Ø12345678 9Ø123456789Ø123456789Ø123456789Ø1234567 89Ø123456789
- 4 .123456789Ø123456789Ø123456789Ø12345678 9Ø123456789Ø123456789Ø123456789Ø1234567 89Ø123456789Ø12345678

5 .1234567890123456789012345678901234 6 .123456789Ø123456789Ø123456789Ø12345678 901234567890123456789012345678901234567 8901234 7 .12345678901234567890123456789012345678 9012345678901234567890123456789 100 Z=1; CLEAR; NT=1 11Ø Y=1;GOSUB 2ØØ+ZxlØ;IF Z=6GOTO 11Ø 115 IF Z=8GOTO 280 120 PRINT ; FOR N=BTO N+C 13Ø O=%(N) ÷256 140 R=RM 150 PRINT #1,"LINE #",Z," ",Y,"=",;INPUT " 160%(N) = 256xV + R; Y = Y + 1170 NEXT N: GOTO 110 21Ø B=-24558; C=96; Z=Z+1; RETURN 220 B=-24457; C=88; Z=Z+1; RETURN 23Ø B=-24364; C=97; Z=Z+1; RETURN 240 B=-24262: C=33: Z=Z+1: RETURN 25Ø Z=Z+1;Y=1;FOR A=-24223TO A+82STEP 2 252 PRINT #1,"LINE #6 ",Y,"=",;INPUT ""V 254 % (A) =V; Y=Y+1; NEXT A; RETURN 26Ø B=-24136; C=68; Z=Z+1; RETURN 270 Z=Z+1: RETURN 280 CLEAR ; PRINT ; PRINT " PARAMETER PROGRA M"; PRINT "COMPLETED. START TAPE"; PRINT "RECORDER ON 'RECORD'. WHEN READY TO LO AD ON TAPE, 282 PRINT "PRESS 'GO' 290 A=KP; IF A=13GOTO 310 300 GOTO 260 310 :PRINT :TV=13:LIST .7:TV=13::RETURN EINE 2 74 77 199 34 35 60 80 83 84 68 69 LINE 3 56 71 90 42 57 12 41 40

37 38 39 40 41 42 43 44 45	
41 42 43 62 63 64 8Ø 81 82	CONNECT FOUR MAIN BODY PROGRAM
46 47 48 49 50 SI 52 53 54 98 99 7 42 43 65 66 83 84	BY
55 56 57 58 59 60 61 62 63 85 100 4 43 67 86 87 88 4	ROBERT LEAKE
\$4 65 66 67 68 68 70 71 72	8 GOTO 14
44 56 68 69 70 7 44 45 57 . 73 74 75 76 77 78 79 80 81	9 BOX Ø,43,87,1,2
58 71 72 73 89 10 44 45 46	10 BOX -49+12xC,43,9,1,1; RETURN 11 M=%(-24225+14xE+2xC); RETURN
82 83 84 85 86 87 88 89 59 60 61 74 75 76 90 91	12 U=0 17; F=RM; IF F=ØF=7
	13 BOX -49+12xF,-8+(Q-1) +7x9,11,8,3; RETURN
LINE 4	14 CLEAR; INPUT "CG1 OR 2 PLAYERS?"P
	15 BC=1Ø; FC=183; FOR A=1TO 76; @(A)=Ø; NEXT A; CLEAR; BOX -1,14,87,56,1; FOR Q=1TO 42;
10 11 12 13 14 15 16 17 16 79 92 93 94 10 45 46 47	GOSUB 12; NEXT Q; C=1; GOSUB 10; T=-1; N=69;
19 20 21 22 23 24 25 26 27 65 66 8g 81 82 95 96 97 7	CY=-32
26 4 29 30 31 32 33 7 34 35 36 46 47 67 88 84 85 98 99 4	16 J=(T+3) ÷2
37 38 39 40 41 42 43 44 45	17 D=C+JX(J); IF C#DIF Dx(8-D)C=D; GOSUB 9 18 IF (Tr(J)#1)+(@(C)=6)GOTO 17
47 86 87 88 1gg 3 48 58 69 40 47 48 49 50 51 52 53 54	19 GOSUB 37;T=-T; IF P#1GOTO 16
70 5 48 49 60 61 72 73 7	2Ø L=-9999; FOR C=1TO 7; GOSUB 9; IF @(C)=6GO
55 56 57 58 59 63 61 62 63 48 49 5Ø 63 64 75 76 89 9	то 36
64 65 66 67 68 69 70 71 72 48 49 50 51 65 66 78 79 99	21 E=@(C);GOSUB 11;W=Ø;FOR A=M+1TO A+%(M);
73 7 74 75 76 77 78 79 80 81	256; B=% (A) ÷256-24; S=@ (B) 22 W=W+@ (8Ø+S); NEXT A; IF W>=@ (83) K=C; C=7; G
91 7 49 50 51 67 81 52 93 52 83 84 85 Ac 81 86 89 901	OTO 36
94 5 50 51 84 85 96 97 3	23 IF @(C)=5GOTO 35
91 92 93 94 95 96 97 98 51 87 88 99 2 52 61 70	24 IF W>=@(77)GOTO 35
LINE 5	25 E=E+1; GOSUB 11; G=Ø; H=1; FOR A=M+1TO A+% (M) : 256; B=% (A) : 256-24; S=@ (B)
1 2 3 4 5 6 7 8 9	26 IF S=-3G=1
	27 IF S=-2W=W-2x@(78):3
10 11 12 13 14 15 16 17 18 66 76 6 52 53 54 55 67 79	28 IF S=2W=W-@(82):3
19 20 721 27 43 24 25 26 27 89 4 53 54 55 82 91 3 54	29 IF S=3H=Ø; W=-3333 3Ø NEXT A; IF G W=-6666; GOTO 35
26 29 30 31 32 38 34 55 85 94 2 55 88 97	31 IF H+(@(C)=4) GOTO 35
LINE 6	32 E=E+1; GOSUB 11; I=Ø; FOR A=M+1TO A+% (M) ÷2
1 2 3 4 5 6 7	56;B=%(A):256-24;S=@(B)
-24558 -24554 (-24549 (-24545) (-24535 (-24529 (-24524) (-24524) (-24529 (-24524) (-24529 (-24524) (-24529 (-24529) (-24	33 IF S=3I=1
-2452Ø -2451\$ -245Ø8 -24499 -24488 -24479 -244.2	34 NEXT A; IF I K=C; C=7; GOTO 36 35 IF W>L L=W; K=C
15 16 17 18 19 20 21 -24467 -24457 -24448 -24436 -24422 -24419 -24491	36 NEXT C; C=K; GQSUB 37; T=-1; GOTO 17
22 2 23 24 25 27 27 28	37 $E=@(C);GOSUB$ 11; $@(C)=@(C)+1;X=-49+12xC;$
-24395 -24389 -24364 -2435Ø -24388 -24329 29 3Ø 31 32 33 34 35	Y=-17+9x@(C);GOSUB 9;BOX X,Y,9,6,1;BOX
-24322	X,Y,5,2,(7+T)÷2;MU=84 38 FOR A=M+1TO A+%(M)÷256;B=%(A)÷256-24;S=
-24272 -24262 -24257 +24251 +24243 -24237 -24232	(B); IF S=4GOTO 46
LINE 7	39 IF SxT<00(B)=4; N=N-1; GOTO 46
1 2 3 4 5 6 7 6 9	4Ø S=S+T;@(B)=S;IF S#4xTGOTO 46
32 33 34 35 39 49 41 42 46 10 11 12 13 14 15 16 17 18	41 R=1; Z=% (-24144+B) ÷256-31; IF B>31R=6
47 48 49 53 54 55 56 6Ø 61	42 IF B>43R=7 43 IF B>64R=8
19 20 21 2 23 24 25 26 27 62 63 67 68 69 70 35 36 42 28 29 30 31 32 33 34 35 36	44 N=Ø;FOR Q=ZTO Z+3xRSTEP R;GOSUB 12;GOSU
28 29 30 31 32 33 34 35 36 37 43 49 38 44 50 45 51 52	B 13; N=N-1; MU=87+N; NEXT Q; IF TR(J) RUN
37 38 39 40 41 42 43 44 45	45 GOTO 44
46 47 48 49 30 41 52 53 54	46 NEXT A; IF NRETURN 47 PRINT "ζζζζζζGAME IS A DRAW
55 56 57 58 59 60 61 62 63	48 IF TR(J) RUN
38 45 52 46 39 47 32 40 48	49 GOTO 48
64 64 1 66 47 68 69 33 41 49 34 42 35	CURSOR VOL.II PAGE 53

After you have loaded the assembled lines 1-7 and the "Connect Four Main Body Program" into the computer, you must load String Arrays 77 through 84 with data. This is done by typing in the following one line program without a line number: FOR A=77TO 84;PRINT #1,"@(",A,")=",;INPUT""@(A);NEXT A;RUN

Computer will print: @(77)=

Input the values from the following, checking for accuracy before pressing "GO":

STRING VALUE	STRING VALUE
0(77) = 1200	0(78) = 100
0(79) = 8	0(80) = 1
0(81) = 12	0(82) = 150
0(83) = 8000	$0(84) = \emptyset$

If you have done everything correctly, the program will run perfectly. We have tripple checked the info and listings for errors, there are none.

Next, we suggest you load the complete assembled program on tape, this will preclude any accidental loss of the program.

STEP 1:Load an unused tape into your tape recorder; press "PLAY" and run the tape a few feet past the end of the tape leader. Stop the recorder.

STEP 2:Load the following one line program into your computer without a line number-DO NOT PRESS "GO"!!

NT=1;CLEAR;:PRINT;TV=13;LIST;FOR A=77TO 84;PRINT #1,"@(",A,")=",@(A),";",;NEXT A; PRINT ":RETURN;RUN

DO NOT PRESS GO AT END OF PROGRAM LINE!!

STEP 3: Press "RECORD" on tape recorder; Press "GO" on computer. Complete program including string arrays will load on tape.

HAVE FUN

BACK ISSUES AVAILABLE

We have had numerous requests for info regarding BACK ISSUES! The following are available:

1. Jan. 80 Contains: Electric Bill Analysis; Plastic Puzzle, Instructions for adding a Full-sized ASCII Keyboard; Life Systhesis Model.

Feb. 80 Contains: PEEK n' POKE: Hex to Decimal Converter;
 String Array @(A) Memory Locator; Instructions on how to add a Printer; Bubble Sort; Camel; Memory Map; WUMPUS.
 Mar. 80 Contains: Three Voice Music Assembler; Star Wars

Music; Chopsticks; Chicago Loop; Lace Curtain; Character Set Size Multiplier; Rotation; National Distributor Info. 4. Apr/May 80 Contains: DMA Graphics (eliminates BOX & LINE COMMANDES, allows very complex graphics!). Reference Books

commands, allows very complex graphics!); Reference Books, Product Review (Computer Ear-Speech Recognition Unit for Bally); Music Contest; RING; Alarm Clock; Byte Saving Hints.
5. June 80 Contains: Direct Color Video/Audio Circuit (for Color Monitor or VCR etc.); Galactibattle (Game); PRINT &

Color Monitor or VCR etc.); Galactibattle (Game); PRINT & STRING Tutorial; OTHELLO: ASCII Conversion Chart; Cursor Control Chart.

6. July 80 Contains: CURSOR Keyboard & 48K Memory Add-On info; ARCADE GOLF; Shell-Metzner Sort; Wavemakers "Mazemaker:; Floating Point Math; User Group Meetings.

SEND \$1.60 per back issue desired to CURSOR: PO Box 266, North Hollywood, CA 91603

SPECIAL-ONE TIME OFFER

We have been able to purchase a very limited supply of RF MODULATORS (plugs into the "mother board connectors) and BALLY BASIC Cartridges at a very excellent price! Retail value is \$90.00. With this combination "one time offer", you may purchase both of them as a package for \$59.95 (includes shipping & handling-CA residents add 6% sales tax). These items will be shipped from Los Angeles, NOT from another state as is the case with the mother boards (in other words, no delay). The RF Modulator & Bally Basic will be shipped within 72 hours of our receipt of your Money Order or Cashiers Check. Send your order rapidly to CURSOR, 59 E. Orange Grove Ave., Burbank, Ca., 91502.

FUN WITH NOISE

C. J. ANDERSON

EDITORS NOTE: This program requires the "Computer Ear" (Voice Recognition Unit for the "Bally", developed by Anderson Research and Design. Please refer to "Cursor" #4 (April/May), page 30 for our positive review of this well made product. Also see advertisement on last page of this issue.

We went to great lengths in the "Computer Ear" User Manual to stress the importance of peace and quiet. It hadn't occurred to us quite then that there are some circumstances in which noise is beautiful.

A WILD PARTY, FOR EXAMPLE!

Hide your computer under your TV console and set the "Computer Ear" where it can clearly hear the music from your stereo speaker or the babble of the crowd of guests (this would also be great for night clubs, rock bands or the like, using a giant-screen projection TV).

Load the DISCO program, or utilize the concept (it's obvious) to write an even more spectacular one with boxes, lines and starbursts. Turn on the music, adjust the "Computer Ear" sensitivity control for the best response, then get ready to space out with a "color organ" the likes of which your friends have never seen!

10 .DISCO! - 1980 A.R.D.

20 NT=0; CLEAR ; GOTO 40

3Ø IF KN(4)<-127GOTO 3Ø

31 X=KN(4); RETURN

4Ø XY=RND (22526)-11263; LINE Ø,Ø,RND (2); G OSUB 3Ø; BC=X+128; GOSUB 3Ø; FC=X+128; GOTO

SERVICE PROBLEMS ?

If you have been experiencing difficulty finding a local repair center for the Bally Arcade, cheer up, you have not been forgotten! Dick Konopa, Products Manager of Bally Manufacturing Corp., Consumer Product Division, tells us Bally has established a national service center just for you:

REX TELEVISION SERVICE CO. 6011 South Pulaski Road Chicago, Illinois 60629 312/735-2929

You have a 90-day warranty on your Arcade. If it is older than 90 days but under one year, the service charge is \$24.95. Any unit over one year carries a service charge of \$49.95 plus parts. Pack your unit well and send it by United Parcel Service along with your proof of purchase. If you need any further info, contact "REX".

MANUALS-MANUALS-MANUALS-MANUALS

1. Bally On-Board ROM Sub-Routines. Explains the use of the on-board routines which allow you to perform such things as you find in the "Machine Language Programs" in Cursor. Includes ASCII Standard & Nonstandard Character Sets, Cassette Memory Structure; Output Ports; Input Ports; Bally Data Base Locations; Bally Memory Locations; and On-Board ROM 8K Hex Dump. \$3.50 (+ 25¢ 1st Class Postage).

NOTE: ALL PRINTED MATTER SENT 3RD CLASS UNLESS YOU DESIGNATE OTHERWISE!

- 2. Hackers Manual. Describes features provided in the Tiny Basic but not documented in the Bally Instruction Booklet (Additional Commands). \$2.95
- 3. Disassembled Tiny Basic (CDOS Z80 Assembler Version 02.15). A complete assembly language listing including OP Code and comments of the Tiny Basic Cartridge. \$6.50 (+ 45¢ First Class Postage)
- Disassembled Brickyard & Clowns. A complete assembly language listing including OP Code and comments.
 \$6.95 (+ 45¢ for 1st Class Postage).
- Disassembled DEMO Cassette. A complete assembly language listing including OP Code and comments.
 \$6.50 (+ 45¢ First Class Postage).
- 6. BALLY System Description Book. Extensive and includes "Electrical Specifications for Midway Custom Circuits" Timing, Interrupt handling explanations, etc. \$6.95 (+ 45¢ First Class Postage).
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 Home Video Game Equates; Port Equates; System Call Indexes; Macros; Music Macros; Music Equates; System RAM Memory Cells; User Supplied Routines; Masks; UPI Routine Address Tables; Sentry; BCD Divide; BCD Subtract & Add; Decrement Counters & Timers; Music CPU; Vectoring Routines; Paint Rectangle Routine; Write Routines; Character Display Routines; Display BCD; Menu Routines, and much, much more.
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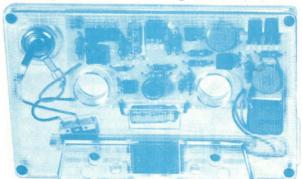
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DANGEROUS NOTE: Some commercially-available demagnetizers create permanent magnetism instead of removing it (we had this type of problem with a cheap non-electric type Radio Shack product)!

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SIDE 2

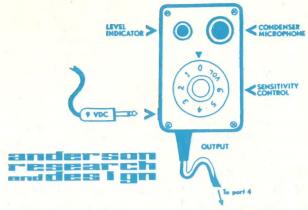
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